REMARKS

Background

Claims 1 and 2 of the present application were rejected in a final rejection mailed on February 20, 2007. The Applicant submitted a response after the final rejection on May 21, 2007 including amendments to the claims. The Examiner issued an Advisory Action on June 5, 2007 refusing to enter the amendments to the claims submitted on May 21, 2007. The Applicant submitted a request for reconsideration on June 25, 2007, but the request was not acted on in time before the statutory deadline of August 20, 2007. Therefore, the Applicant filed a Notice of Appeal in order to avoid abandonment of the application. The Applicant now requests continued examination of this application pursuant to 37 CFR 1.114.

The Claims

Claims 1, 3-8, 10 and 16-22 are pending in this application. Claims 2 and 9 are cancelled. Claims 11-15 are withdrawn from consideration as being directed to a non-elected invention. New Claims 20 and 21 have been added.

Claims 3-10 and 16-20 were objected to, but were indicated to be allowable if rewritten in independent form. Claim 16 is an independent claim and was filed as such. Therefore, clarification is requested regarding the Examiner's statement that Claim 16 is objected to, but would be allowable if written in "independent form".

New Claims 21 and 22 are directed to an additional feature of the Applicant's claimed rf radiation suppressor not previously claimed. Written support for the subject matter of Claims 21 and 22 is found at Figures 7A and 7B and at paragraph 0048 of the Specification.

The Rejection

The Examiner rejected Claims 1 and 2 under 35 USC 102(b) as being anticipated by the description in the background section of the present application as set forth at pages 1-10 and in Figures 1-6.

In response to the Applicant's arguments filed on November 24, 2006 the Examiner stated "The prior art discusses at length pages 1-10 figures 1-6 the construction of prior art suppressors made of molded epoxy binder with iron particles (chosen for its excellent absorption qualities) and ceramic (insulation properties) inner sleeves. There is no reason the inner sleeve and outer shell need be of different material though as the limitations of claim 1 are now recited."

In order for a reference to anticipate a claimed invention, it must describe every element of the claimed invention. MPEP §2131. The background section (pages 1-10) of the present application and the related drawings (Figures 1-6) do not describe or show an rf radiation suppressor for a magnetron that has the combination of features set forth in Claim 1. The rf radiation suppressor described in the background section and shown in the drawings is formed from a monolithic piece of a radiation suppressing material. A common material used to make the known suppressor is a microwave absorbing material sold under the registered trademark ECCOSORB. As shown in Figure 6 of the Drawings and described in paragraphs 0011 and 0012 of the Specification, the known rf suppressor for a magnetron includes a molded collar (602) formed of a single piece of the microwave absorbing material and a metallic connector (604). The molded collar is shown without the connector in Figure 5. The known collar does not have a ceramic portion.

In the Applicant's claimed rf suppressor as set forth in Claim 1, the collar portion of the suppressor is formed from pieces of different materials. Each material is selected for a particular

purpose. The inner sleeve (e.g., inner sleeve 702, Figs. 7A and 7B) is formed from an electrical insulating polymer. The electrical insulating material is selected for high dielectric strength in order to inhibit the arcing problem experienced with the known rf suppressors for magnetrons. (See, paragraphs 0014 to 0017 of the Specification.) The outer shell (e.g., outer shell 704, Figs. 7A and 7B) is molded from a microwave-absorbing material such as the ECCOSORB brand of microwave-absorbing material.

The Applicant's claimed rf radiation suppressor is an insulated rf radiation suppressor that incorporates an inner sleeve of highly electrically resistive material that can withstand the application of very high electric fields. The claimed rf radiation suppressor component is fabricated as a bi-layer composite of two parts: an insulating member shaped from a polymer material such as PTFE, and a molded rf-absorbing outer shell comprised of a suspension of iron particles in an epoxy resin and shaped by using the insulating member as part of a form to mold the rf-absorbing material. The electrically insulating inner sleeve member provides a barrier between the rf-absorbing outer shell and the magnetron cathode that prevents the rf-absorbing outer shell from contacting the magnetron cathode. That arrangement effectively prevents the arcing and electrical breakdown of the rf-absorbing material that has led to failures in the known magnetron rf suppressors.

Furthermore, the use of the machinable polymer for the electrically insulating inner sleeve makes the Applicant's claimed rf suppressor easy to produce with a high degree of precision. Moreover, because of the composite construction, the overall shape and size of the claimed rf suppressor can be essentially the same as that of the known suppressor. That means that no modifications to the magnetron or the magnetron housing are needed in order to obtain the benefits of the rf suppressor according to the present invention.

A further advantage of the Applicant's claimed rf radiation suppressor is that it avoids the machining of the rf absorbing material. In the known magnetron rf radiation suppressors, the rf absorbing material was machined to final form and shape. It was found, however, that the machining process caused iron particles to remain on the machined surfaces, thereby promoting arcing effects that would damage the material. Elimination of the machined surfaces and sharp geometric features in the rf absorbing outer shell contributes to the improved resistance to arcing when the suppressor is subject to high electric field transients.

For all of the foregoing reasons, it is believed that the Applicant's claimed radio frequency radiation suppressor for an industrial magnetron is novel and not obvious relative to the rf suppressor described in the background section of the present application and shown in Figures 1 to 6 thereof.

Claim 2 is cancelled, thereby rendering the rejection of that claim moot.

Claim 3

Claim 3 was indicated to contain allowable subject matter. However, Claim 3 has been amended to recite subject matter that is different from that previously claimed. Claim 3 depends from Claim 1 and therefore, is allowable for at least the same reasons discussed above relative to Claim 1. Moreover, the feature now set forth in Claim 3 is neither described nor suggested by any of the prior art references or information of record in this application. Therefore, it is believed that Claim 3 is allowable in its own right, independent of the subject matter of Claim 1 from which it depends.

CONCLUSION

In view of the foregoing amendments and remarks, it is believed that all of the claims pending in this application are in condition for allowance. The Applicant respectfully requests that the Examiner reconsider the application in the light of the amendments and remarks presented herein.

Respectfully submitted,

DANN, DORFMAN, HERRELL AND SKILLMAN
A Professional Corporation
Attorneys for Applicant

By 
Vincent T. Pace
PTO Registration No. 31,049

Tel: 215-563-4100
Fax: 215-563-4044
Email: vpace@ddhs.com